

REMARKS

This Application has been carefully reviewed in light of the Office Action mailed June 16, 2005. Claims 1-20 were pending in the Application. In the Office Action, Claims 1-20 were rejected. In order to expedite prosecution of this Application, Applicant amends Claims 1, 11 and 18, and Applicant cancels Claim 7 without prejudice or disclaimer. Thus, Claims 1-6 and 8-20 remain pending in the Application. Applicant respectfully requests reconsideration and favorable action in this case.

In the Office Action, the following actions were taken or matters were raised:

SECTION 101 REJECTIONS

Claims 1-20 were rejected under 35 U.S.C. §101, because the Examiner asserts that the language of the claim raises a question as to whether the claim is directed to an abstract idea that is not tied to a technological art, environment or machine which would result in a practice application producing a concrete, useful and tangible result to form the basis of the statutory subject matter under 35 U.S.C. §101. Applicant respectfully disagrees. However, in order to expedite and advance the prosecution of the present Application, Applicant has amended Claims 1, 11 and 18 to make clear that the “lexical search tree data structure” of the present invention as defined by each of the independent Claims 1, 11 and 18 is accessible and/or searchable by a “computer.” Accordingly, Applicant respectfully requests that this rejection be withdrawn.

SECTION 102 REJECTIONS

Claims 1-6 and 8-10 were rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,470,347 issued to Gillam (hereinafter “*Gillam*”). Applicant respectfully traverses this rejection.

Of the rejected claims, Claim 1 is independent. Applicant respectfully submits that *Gillam* does not disclose or even suggest each and every limitation of independent Claim 1.

For example, Applicant respectfully submits that *Gillam* does not disclose or even suggest “each one of said plurality of root nodes comprising a hash value for the first character represented by said respective root node” as recited by Claim 1.

In the Office Action, the Examiner appears to admit that *Gillam* does not disclose at least the above-referenced limitation of Claim 1 (Office Action, page 8, in connection with the Examiner’s rejection of Claim 7 under 35 U.S.C. § 103). However, the Examiner also appears to indicate that U.S. Patent No. 5,319,779 issued to Chang et al. (hereinafter “*Chang*”) purportedly teaches the above-referenced limitation, and that it would have been obvious to apply *Chang*’s purported teaching to *Gillam* to arrive at Applicant’s invention as recited by amended Claim 1 (Office Action, page 8). Applicant respectfully disagrees. For example, *Chang* appears to disclose that a hash function is used to encode a substring of a record field or text word into a single numeric value within a specified range where the computed number identifies a bit position in a leaf signature that is set to “1” (*Chang*, column 6, lines 23-28). *Chang* recites:

A leaf signature S1 is formed by setting the indicated bits after the hashing function is applied to field substrings. Field substrings consist of adjoining 3-letter sequences of field values or words in the record. . . . The Harrison hashing algorithm computes a number based on each 3-letter sequence, by summing weighted values of each character. . . . When the character values are weighted and summed, the result is then divided by the largest prime number less than the bit length m of the leaf signature S1. The remainder indicates the bit position in leaf signature S1 is to be set to 1. This procedure is repeated for all 3-letter substrings to be hashed in the record field.

(*Chang*, column 8, lines 5-27) (emphasis added). *Chang* also discloses:

The net result [of the leaf signature generation process] is to encode the data into a much smaller, more compact representation. Records can be searched more efficiently by testing a properly formed leaf signature S1 than by comparing field values in the record.

(*Chang*, column 8, lines 51-55) (emphasis added). Thus, Applicant respectfully submits that *Chang* does not disclose or even suggest “each one of said plurality of root nodes comprising a hash value for the first character represented by said respective root node” as recited by Claim 1 (emphasis added). To the contrary, *Chang* teaches away from at least the above-referenced limitation recited by Claim 1 at least because *Chang* appears to be directed toward hashing multiple characters in order to encode the data into a much smaller, more compact representation. Therefore, Applicant respectfully submits that independent Claim 1, as amended, is patentable over the cited references.

Claims 2-6 and 8-10 that depend from independent Claim 1 are also not anticipated by *Gillam* at least because they incorporate the limitations of Claim 1 and also add additional elements that further distinguish *Gillam*. Therefore, Applicant respectfully requests that the rejection of Claims 2-6 and 8-10 be withdrawn.

SECTION 103 REJECTIONS

Claims 7 and 11-20 were rejected under 35 U.S.C. 103(a) as being unpatentable over *Gillam* in view of *Chang*. Claim 17 was rejected under 35 U.S.C. §103(a) as being unpatentable over *Gillam* in view of *Chang* and further in view of U.S. Patent No. 5,841,376 issued to Hayashi (hereinafter “*Hayashi*”). Claims 18-20 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,369,577 issued to Kadashevich et al. (hereinafter “*Kadashevich*”) in view of *Gillam*. Claims 18 and 20 were rejected under 35 U.S.C. §103(a) as being unpatentable over *Gillam* in view of *Hayashi*. Claim 19 was rejected under 35 U.S.C. §103(a) as being unpatentable over *Gillam* in view of *Hayashi* and further in view of *Kadashevich*. Applicant has canceled Claim 7 without prejudice or disclaimer, rendering the rejection of Claim 7 moot. Applicant respectfully traverses these rejections for remaining Claims 11-20.

Of the rejected claims, Claims 11 and 18 are independent. Applicants respectfully submit that the cited references do not disclose, teach or suggest the limitations of amended independent Claims 11 and 18. For example, independent Claim 11 recites “determining a

hash value for a target signature” and “determining a branch having a root node of said lexical search tree data structure corresponding to said hash value” (emphasis added). As discussed above in connection with independent Claim 1, Applicant respectfully submits that *Gillam* does not disclose or even suggest “a root node of said lexical search tree data structure corresponding to said hash value [of a target signature]” as recited by Claim 11 (emphasis added). In fact, the Examiner appears to acknowledge such a deficiency of *Gillam* (“*Gillam* discloses the claimed limitation subject matter in claim 1, except the claimed limitation ‘each root node comprising a hash value for the character represented by said root node’” (Office Action, page 8)). Additionally, the Examiner appears to indicate that “comparing [a] first letter of [a] word to the letter in the root node” equates to “determining a hash value for a target signature” as recited by Claim 11 (Office Action, page 9). Applicant respectfully submits that merely comparing a first letter of a word to the letter in the root node as suggested by the Examiner, without more, does not rise to the level of “determining a hash value for a target signature” as recited by Claim 11. Further, at least for the reasons discussed above in connection with Claim 1, *Chang* does not remedy the deficiencies of *Gillam* and, moreover, Applicant respectfully submits that *Chang* teaches away from the invention as defined by independent Claim 11. Accordingly, for at least these reasons, Applicant respectfully submits that Claim 11 is patentable over the cited references.

Independent Claim 18 recites “allocating a plurality of root nodes, one for each distinct element of said plurality of signatures” “determining a hash value for a signature of said plurality of signatures” and “determining a status of a root node having said determined hash value, said root node being selected from said plurality of root nodes and representing a first element of said signature” (emphasis added). As discussed above in connection with independent Claims 1 and 11, *Gillam* does not disclose or even suggest “determining a hash value for a signature” or “a root node having said determined hash value” where the root node “represent[s] a first element of said signature” as recited by Claim 18. Further, neither *Hayashi* nor *Kadashevich*, alone or in combination with *Gillam* as proposed by the Examiner, appears to remedy the deficiencies of *Gillam*. Accordingly, for at least these reasons,

Applicant respectfully submits that Claim 18, as amended, is patentable over the cited references.


Claims 12-17, 19 and 20 depend respectively from independent Claims 11 and 18. For at least the reasons discussed above, independent Claims 11 and 18 are in condition for allowance. Therefore, Claims 12-17, 19 and 20 that depend respectively therefrom are also in condition for allowance, and Applicant respectfully requests that the rejection of Claims 12-17, 19 and 20 be withdrawn.

CONCLUSION

Applicant has made an earnest attempt to place this case in condition for immediate allowance. For the foregoing reasons and for other reasons clearly apparent, Applicant respectfully requests reconsideration and full allowance of all pending claims.

No fee is believed due with this Response. If, however, Applicant has overlooked the need for any fee due with this Response, the Commissioner is hereby authorized to charge any fees or credit any overpayment associated with this Response to Deposit Account No. 08-2025 of Hewlett-Packard Company.

Respectfully submitted,

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